

**Work Order ID 122527**

Tuesday, July 22, 2014 8:39:04 AM

**\*122527\***

Page 1

Item ID: D4716-3 Accept **\*N900040100\*** Setup Start **\*NS1\***  
Revision ID: Stop **\*NS2\***  
Item Name: Duct Hose  
Start Date: 8/19/14 Start Qty: 16.00 **\*16\*** Cust Item ID:  
Required Date: 8/19/14 Req'd Qty: 16.00 **\*16\*** Customer:  
Reference:

Approvals: Process Plan: MLJ Date: 14-07-22 Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D4716	A								

100

0.00

**\*100\***

Purchasing

Memo

0.00

Purchasing

Issue P/O: 25142  
MANUFACTURE AS PER DWG D4716  
Supplier: CUSTOM DUCTS  
Certificate of conformity is required

CX 14/07/24 14

110

Receive &amp; Inspect for Damage &amp; Mat'l Certs

0.00

**\*110\***

Packaging

Memo

0.00

Packaging

P 14/8/25 (14)

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/>            Machining <input type="checkbox"/>            Thermoforming <input type="checkbox"/>            Large Fab <input type="checkbox"/> </div> <div>           Crosstube <input type="checkbox"/>            Small Fab <input type="checkbox"/>            Finishing <input type="checkbox"/>            Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/>            Prod. Eng. Coord. <input type="checkbox"/>            Rec/Store/Packaging <input type="checkbox"/>            Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/>            Quality <input type="checkbox"/>            Other <input type="checkbox"/> </div> </div>
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

### FAULT CATEGORY

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge  <input type="checkbox"/> Pressure/Forced Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled  <input type="checkbox"/> Other
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**\*122527\***

Page 2

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QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC6- Inspect dimensions to drawing	0.00							
<b>*120*</b>									
QC	Memo	0.00				16		DAS 9 9-89	DAS 38 9-89 14-8-25
Quality Control									
130	Identify as per dwg & Stock Location: _____	0.00							
<b>*130*</b>									
Packaging	Memo	0.00							
Packaging									
140	QC21- Final Inspection - Work Order Release	0.00							
<b>*140*</b>									
QC	Memo	0.00							
Quality Control									

MLJ 14-8-26

14-8-26

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



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Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/>	Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/>	Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/>	Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/>			

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Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

### FAULT CATEGORY

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge  <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
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# Picklist Print

Tuesday, July 22, 2014 8:39:03 AM

Page 1

Work Order ID: 122527

**\*122527\***

Parent Item: D4716-3

**\*D4716-3\***

Parent Item Name: Duct Hose

Start Date: 8/19/14

Required Date: 8/19/14

Start Qty: 16.00

Required Qty: 16.00

Comments: IPP REV:A 12.11.08 NEW ISSUE DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D4716-3P		Purchased	No			110	Each	0.0000	1	16			
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**\*D4716-3P\***

Duct Hose

**\*\***

*7/24/14* *(16)*

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/>            Machining <input type="checkbox"/>            Thermoforming <input type="checkbox"/>            Large Fab <input type="checkbox"/> </div> <div>           Crosstube <input type="checkbox"/>            Small Fab <input type="checkbox"/>            Finishing <input type="checkbox"/>            Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/>            Prod. Eng. Coord. <input type="checkbox"/>            Rec/Store/Packaging <input type="checkbox"/>            Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/>            Quality <input type="checkbox"/>            Other <input type="checkbox"/> </div> </div>
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Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

**FAULT CATEGORY**

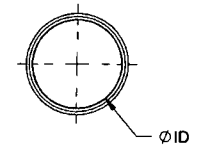
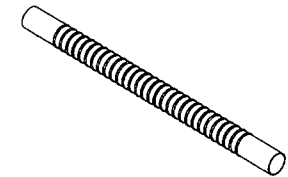
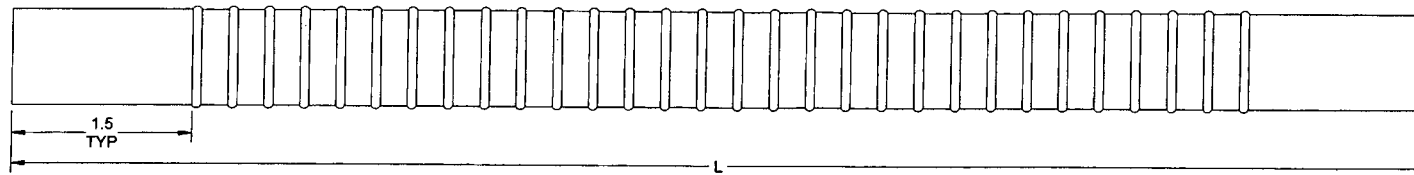
<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge  <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled  <input type="checkbox"/> Other
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SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT

WITHOUT NOTICE  
WORK ORDER

NO. ~~122523~~ <sup>ML5</sup>  
14-07-22

## SPECIFICATION CONTROL DRAWING



DART PART NUMBER	DESCRIPTION	POSSIBLE VENDOR	VENDOR PART NUMBER	MATERIAL	ID	L	WEIGHT (lb)
D4716-1	DUCT HOSE	CUSTOM DUCTS	SCEET	SILICONE RUBBER	0.75	24.0	0.2
D4716-3	DUCT HOSE	CUSTOM DUCTS	SCEET	SILICONE RUBBER	0.75	28.0	0.2
D4716-5	DUCT HOSE	CUSTOM DUCTS	SCEET	SILICONE RUBBER	0.75	41.0	0.3

### D4716-X DUCT HOSE

RELEASED  
2012-11-05  
mp

#### NOTES:

- 1) MATERIAL: PER TABLE
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
- 7) WEIGHT: PER TABLE

A	NEW ISSUE	RF	12.07.25
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. A
MFG. APPR.	<i>[Signature]</i>	D4716	SHEET 1 OF 1
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	DUCT HOSE	NTS
DATE	12.07.25	<small>COPYRIGHT © 2012 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	



Dart Aerospace Ltd.  
1279 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
Tel: 613 632 9577  
Fax: 613 632 1053

## PURCHASE ORDER

Purchase Order ID **PO25142**

Purchase Order Date 7/24/2014

PO Print Date 7/24/2014

Page Number 1 of 2

**Order From :**

CUSTOM DUCT  
179 BEAVER BERRY ROAD  
  
LIMINGTON, MAINE 04049

VU-CD001

**Ship To :** DART AEROSPACE LTD  
1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA

**FAKED**

**Contact Name**  
**Vendor Phone** 207-637-3000

**Ship To Contact**

**Ship To Phone**

**Ship Via:** FedEx PI ppd

**Ship Acct:**

**Buyer**  
**Customer POID**  
**Customer Tax #** 10127-2607  
**Terms** Net 30  
**Currency** USD  
**FOB** Destination-Collect

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	D4716-1P  AS PER DWG D4716 REV. A B122496	Duct Hose	8/29/2014 Yes 8/29/2014		8.00 Each	\$30.00	\$240.00
						<b>Line Total:</b>	<b>\$240.00</b>
2	D4716-3P  AS PER DWG D4716 REV. A B122527	Duct Hose	8/29/2014 Yes 8/29/2014		16.00 Each	\$34.00	\$544.00
						<b>Line Total:</b>	<b>\$544.00</b>
3	D4716-5P  AS PER DWG D4716 REV. A B122697	Duct Hose	8/29/2014 Yes 8/29/2014		18.00 Each	\$38.00	\$684.00

**Note:**

7/24/2014



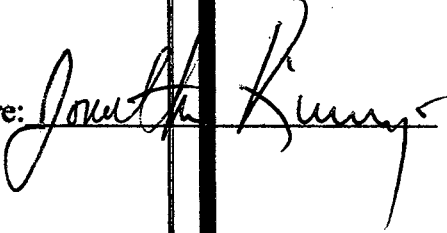
Custom Duct  
179 Beaver Berry Rd.  
Limington, ME 04049

## CERTIFICATE OF CONFORMANCE

Customer Name: Dart Aerospace Ltd. Purchase Order No: PO25142

~~8 EACH SCEET 3 X 24" Your D4716-1P WITH CUFFS~~  
~~16 EACH SCEET 3 X 28" Your D4716-3P WITH CUFFS~~  
~~18 EACH SCEET 3 X 41" Your D4716-5P WITH CUFFS~~

This is to certify that the products, systems and/or services listed here-in have been manufactured, inspected and tested in accordance with Custom Duct and industry standards. It is further certified that the items listed here-on are in compliance with the provisions of your purchase order/ work order listed above. Inspection and test records and material certifications are on file and available upon request.

Signature: 

Date: 21 August 2014

**HARTZELL**

aerospace

Industrial Tube Co. LLC  
3091 Indian Ave  
Perris, CA 92571  
(951) 657-2611 Fax (951) 943-0191  
www.hartzellaerospace.com

**Packing List 078932****Customer No C00853****Sales Order Packing List**

Ship to : **CUSTOM DUCT**  
**179 BEAVER BERRY RD.**  
**LIMINGTON ME 04049**  
**USA**

Sold to : **CUSTOM DUCT**  
**179 BEAVER BERRY RD.**  
**LIMINGTON ME 04049**  
**USA**

Ship Date	Customer PO	Sales Order	# of Boxes	Weight	Ship VIA	Bill of Lading	F O B	
07/22/2014	14-1537	03212000	0	0.0000	UPS TRAC COLL		PERRIS,CA	
Item	Part / Rev / Description / Details				Order Quantity	Location	Quantity to Ship	Picked Qty
000001	TPS 3 X 144 HOSE,2 PLY SILI .75"ID X 12FT CURED				Rev MC U/M EA	16.000		16.000
					JO 89656-0000			
3 0 - 1 4							0.000	

Shipper Memo:

\*\*\*CERTIFICATE OF CONFORMANCE\*\*\*

Seller hereby certifies that the products in this shipment conform to the requirements of the listed purchase order. Inspection and/or test results are on file and will be made available to the customer upon request.

Seller certifies that the Quality Management System of Industrial Tube Corp. complies with the requirements of AS9100 "C" and ISO 9001:2008. Seller certifies items were manufactured in the United States of America.

NOTE: Returns without an authorization number will not be accepted.



7-23-14